

June 2, 2005

**Critique of April 2005 Public Review Draft of  
California Water Plan, Bulletin 160-2005  
By Alex Hildebrand\***

---

Introduction

This critique of the Water Plan was prepared for submittal at public review meetings in June 2005 regarding the Public Review Draft of the California Water Plan 2005.

This Public Review Draft provides a wealth of information on the complexities and interrelations which constitute the state's current water system, including water sources and uses, laws, water rights, structures, etc. It represents enormous effort by many people. Unfortunately, for the reasons discussed below, the Plan is not a credible proposal for meeting the water demands of the State in 2030. It does not comply with the legal requirements governing the basic content and purpose of the Plan. It would result in a catastrophic shortage of both water and food within the 2030 planning period. These shortages would then lead to serious depletion of our groundwater resources, and to inadequate protection of the environment.

The most serious flaw in the Plan is its failure to recognize that more water must be consumed to grow the public's food supply than to meet all other public water needs. There are scientific reasons why this will always be the case. The Water Plan proposes to meet all direct domestic water needs and to increase water for the environment, but it facilitates those increases by substantially decreasing the water available to grow food.

Provisions in the Plan

The Plan forecasts that California's population will increase by one third (12 million more people) before 2030. These people will need housing, clothes and food. The Plan implies that farmers can grow one third more food and other essential farm products with 10% less water for irrigation than we now use. A report by economists is used to support this view. This is not scientifically possible! Credible estimates by agricultural researchers predict that about 0.75 acre feet of water must continue to be consumed annually to produce an acceptable mix of essential farm products for each person. DWR refused to include and discuss in their planning document the publications from U.C. Riverside and other agricultural experts that explain why a substantial increase in crop growth is not scientifically possible without a substantial increase in consumptive use of water. Unconsumed water in the Central Valley is almost all currently recaptured

---

\*Hildebrand is a farmer, engineer, member of the California Water Plan Advisory Committee; and has appeared as an expert in water matters before CALFED, SWRCB, and in testimony for the South Delta Water Agency and for Farm Bureau.

and reused. Farmers can provide the needed increase in food supply as the population grows and food prices rise but can only do so if they have enough water. They may need to consume as much as eight million acre-feet more water than they now use. California Food and Agricultural Code section 411<sup>1</sup> requires that a lack of agricultural water supply must not cause the state or the nation to become dependent on a net import of food. The Department of Food and Agriculture is required to estimate the future food needs and the DWR's State Water Plan is required to plan for the water supply needed to produce that food. The Plan does not do this.

The failure of the Plan to provide this water would therefore result in a future reliance on a net import of food which is directly contrary to the statutes. The Plan does not mention the national security risks that reliance on food imports would cause. It does not mention credible estimates that in 2030 there will be about one and a half billion more people worldwide competing for food, and at least fifty million more people in the U.S. It does not mention that the rest of our nation relies on California for a very substantial portion of its fruit, nuts, and vegetables. It does not mention credible estimates that a substantial portion of today's production of food relies on an unsustainable groundwater overdraft in California, in the U.S., and worldwide.

Water Code section 10004.6<sup>2</sup>, requires that the Water Plan estimate the water required to supply all of California's future needs and that it propose measures to provide that water. The Plan does not comply with this legal requirement.

The Water Plan Highlights on page 15 show ranges of additional potential water supply that might be provided by the plan's proposed measures. The upper ends of these ranges in predicted water supply are largely "pie in the sky." The lower ends add up to about 3.8 million acre feet. If 2 million acre feet of this increase were used to replace groundwater overdraft as required by Water Code section 10004.6<sup>3</sup>, there would be a net increase of about 1.8 million acre feet to meet all the needs of 12 million more people. This would be an increase of about 3% more water for 33% more people. Even if the upper ends of the potential estimates could be achieved, the increase would be about 7.3 million acre feet, or about a 10% increase for 33% more people. The consequent water shortage is all proposed in the Plan to become a reduction in the water needed to grow food and other essential farm products.

---

<sup>1</sup> Section 1 of AB2587-2002 states that "It is the intent of the legislature that the food forecasts made by the Department of Food and Agriculture and the Department of Water Resources shall include the following considerations: Neither the state nor the nation should be allowed to become dependent on a net import of foreign food." Also, "As the nation's population grows, California should produce enough food to supply the state and also continue to supply the historical proportion of the nation's food supply."

<sup>2</sup> Water Code section 10004.6(a) states in part "the department shall conduct a study to determine the amount of water needed to meet the state's future needs and to recommend programs, policies and facilities to meet those needs."

<sup>3</sup> Water Code section 10004.6(c) states in part that the department shall release assumptions and estimates including 10004.6(c)(2) which states that in regard to groundwater they must "supply estimates of sustainable yield, supplies necessary to recover overdraft basins. . . ."

The Plan estimates future water needs by the long term extrapolation of "current trends," regardless of the plausibility of the extrapolation. If a 26 year old man eats 25% less than he did when he was a 16 year old teenager, this method of forecasting would predict that the man would need no food when he is 56 years old! The inadequacy of the Plan is obscured by relying on this method of forecasting future need.

The Plan asserts that less farm water will be used because the cost of water will rise and reduce farm use of water regardless of the need for increased production. It assumes that this rise in water cost will not be offset by a rise in the price of farm products as the world food supply continues to decline on a per capita basis and as groundwater overdraft for irrigation becomes unsustainable.

The Plan assumes that irrigated lands converted to urban and environmental use will not be replaced by irrigating currently un-irrigated lands regardless of a rise in food prices. It even assumes that some farm lands will be fallowed and other lands converted to wetlands.

The Plan assumes that the increase in water supply from its identified measures will be adequate. It does not identify and discuss measures which could further augment the developed supply if needed. It does not discuss the potential for retaining the water spilled to the Bay in excess of outflow requirements. It does not discuss the fact that it could take several decades to study, design, fund, and implement these additional measures when they prove to be needed. If we do not even identify and study these measures now, it will be impossible to have them when needed.

The Plan proposes to comply with the law in some future update of the Water Plan. DWR's obligation, however, is to produce an adequate plan now that complies with the law and is based on the best information available at the time the plan is issued.

#### Further examples of impacts on the production of food.

- 1) In the introduction to Resource Management Strategies, the "strategies" listed include crop idling for water transfers, irrigated land retirement, "rainfed" (non-irrigated) agriculture and "transoceanic water bags."
- 2) Under Potential Benefits of Water Transfers the Plan states that "economic studies indicate that about 300,000 acre feet in the Sacramento Valley and 400,000 acre feet in the San Joaquin Valley could be made available through crop idling without unreasonably affecting the overall economy". There is no comment on the effect these transfers would have on the food supply. Table 1 under this heading also lists pending transfers from agriculture to urban use totaling more than 500,000 acre feet, and from agriculture to environmental use totaling about 200,000 acre feet.
- 3) The sprawl of urban housing usurps land and water previously used to produce food. The Water Plan makes no provision for the replacement water needed to grow food for the residents of that housing.

- 4) The Plan supports the conversion of farm lands to wetlands. These wetlands then consume more water than was previously used to produce food, but the Plan makes no provision for replacing the water needed to restore the production of food.
- 5) The Plan proposes that the production of food be decreased in water short years in order to minimize shortages in water supply for urban and environmental use.
- 6) The water yield of the San Joaquin River system is overcommitted. The CVP-IA causes part of the available yield to be shifted from summer flow in the river when it is needed for farm use to spring flow desired for fish. The Plan ignores this shift away from the farm water supply.
- 7) Food production in eastern San Joaquin County is produced in large part by the unsustainable overdraft of about 150,000 acre feet of groundwater. The Water Plan is required by Water Code section 10004.6 to plan to replace groundwater overdraft, but this update includes no proposal to replace the overdraft of this groundwater basin.

Reductions in farm water supply that are not discussed in the Water Plan will apparently be in addition to the acknowledged reduction of about 10% in the water that will be available to produce food.

Since the Plan makes no assessment of the food supply needed for the increased population in 2030, the Plan therefore avoids making any proposal for providing the water which will be needed to produce an adequate supply of an acceptable mix of agricultural products. None of the "scenarios" the Plan analyzes provide for agricultural water needed to produce this food supply.

### Conclusion

The Water Plan document provides a lot of valuable information, but is not a credible water plan to meet the State's future water needs. For the above and other reasons this Water Plan Update 2005 is a recipe for a serious future shortage of both water and food. Furthermore, worldwide experience shows that a shortage of water needed to produce food results in depleting groundwater resources and in trashing the environment. The Plan irresponsibly obscures and refuses to acknowledge these inadequacies.